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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,507

07/08/2005

Takushi Yoshida

P/1250-293

2987

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EXAMINER

MACARTHUR, SYLVIA

ART UNIT

PAPER NUMBER

1716

MAIL DATE

DELIVERY MODE

07/29/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,507	Applicant(s) YOSHIDA ET AL.	
	Examiner Sylvia R. MacArthur	Art Unit 1716	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-78 is/are pending in the application.
- 4a) Of the above claim(s) 51-56 and 68-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-50 and 57-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Clarification of status of the action dated 2/4/2010

1. The action mailed on February 4, 2010 was non-final.

Response to Arguments

2. Applicant's arguments filed 5/4/2010 have been fully considered but they are not persuasive. Applicant argues that the prior art of Takashi et al (JP 2003-005826), Nakamoto et al (US 7,047,093), Uchida et al (JP 06-331507), or Konishi et al (US 6,145,519) all fail singularly or in combination to teach or fairly suggest an abnormality detection part that detects a processing abnormality based on a combined effect of a plurality of control elements and determines that no processing abnormality is present as recited in claims 40 and 57. Applicant argues on page 1 of the Remarks, paragraph 2 that the uniqueness and novelty of the present independent claims over the prior art is the ability to assess a combined effect and a special determination which allows the system to avoid a decision of abnormality in certain situations. These arguments are held to a method or process steps though the claims are held to an apparatus. Applicant recites that the system comprises a detection part and collection part and discuss the steps that are performed by each. It is the examiner's position that the previous rejections be maintained as they provide structure that is capable of or is configured to perform such steps since the claims lack a specific recitation that the detection part and/or collection part comprise a program, algorithm, or that it has been programmed to... see MPEP 2106.01 [R-5].
3. Applicant's amendments to claims 40 and 57 necessitates the examiner to introduce 35 USC § 112, 2nd paragraph wherein claims 40-50 and 57-67 are deemed as incomplete for

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omitting essential elements of the relationship between the abnormality detection part and the collection part and how (with what structure) it performs the recited process steps.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 40-47 and 57-64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 40-47 and 57-64 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationship between the abnormality detection part and the collection part and how (with what structure) it performs the recited process steps.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 40-47 and 57-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashi et al (JP 2003-005826) using the Machine generated translation provided by applicant in view of Nakamoto et al (US 7,047,093) or Uchida et al (JP 06-331507).

Takashi et al teaches a system and method for management wherein the apparatus comprises a network having a coupling (plant 2 is provided with a AGC 4 and LAN 9) between a substrate processing apparatus (processors M1-Mn) discharging solution onto a rotation substrate via spin chuck 40, a computer 7 comprises a collection part (data box, see abstract) wherein data such a temperature and humidity (both of which are interpreted as the control elements) are monitored (via sensor 44) and collected, see also [0036 and 0037] wherein other control elements (such as rotation speed) are recited. The term non-conformity and automated diagnosis program found through the prior art is interpreted as the abnormality see also the claims section. Note humidity is interpreted as a measure of concentration. Takahashi teaches that an abnormality is detected based of data from temperature or humidity. Takahashi et al fails to teach the combined effect of temperature and humidity will signal an abnormality in the overall process.

The prior art of Nakamoto et al teaches a plurality of data corresponding to outputs from a plurality of sensors. In the figures, abstract, and columns 7 and 8, Nakamoto et al teaches that the combination of the microcomputer and the operator detect an abnormality (an error in the semiconductor manufacturing apparatus) is detected when analyzing the totality of the data that the combined effect). Like the prior art of Uchida et al teaches a supervisory diagnostic method wherein a plurality of data is collected and the combination of the effects of the data produces

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the analysis of an abnormality and its effect of the processing apparatus see the English Translation of the Abstract. Thus both Nakamoto et al and Uchida et al provide suggestions of using the combination of the processing parameter data to determine the status of the process. These prior art show that it is well known technology to analyze the totality of the data to determine the status of the process and the severity of the abnormality. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to use the prior art of Nakamoto et al or Uchida et al to suggest using the combined effect of the data collected in the method of Takahashi et al.

The discussion of the supply pipe in [0027] in Takahashi et al reads on the discharge step.

Note the specific liquid discharged is a matter of an intended use as the nozzles and supply pipes of the prior art are inherently capable of supplying pure water and/or HF and perform cleaning. Furthermore, the type of fluid and process performed does not structurally limit the supply apparatus as claimed. Note also that the sequential order of the processing steps do not further limit the structure of the apparatus as all are controlled by the process controllers (1st , 2nd control sections, and computer) and are inherently capable of performing the steps in the order claimed.

It is the examiner's position that if an apparatus is configured to detect an abnormality in control elements, that is the deviation of actual data from the reference values that deviation is capable of including no deviation. The concept of determining that there is no processing abnormality based on the deviations cancelling each other is a nebulous process step capable of being performed by the combined teachings of the prior art discussed above.

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8. Claims 48-50 and 65-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashi et al (JP 2003-005826) in view of Nakamoto et al (US 7,047,093) or Uchida et al (JP 06-331507) as applied in claims 40-47 and 57-64 above in further view of Konishi et al (US 6,145,519).

The teachings of Takashi et al as modified by Nakamoto et al or Uchida et al were discussed above. The modification fails to teach a circulation mechanism. Konishi et al teaches a substrate processing unit wherein a substrate is cleaned. Konishi et al teaches a recovery unit to recycle/circulate the treatment solution. Konishi et al teaches both HF and water as treatment fluids see col. 8 line 58 and the abstract. The motivation to provide a circulation system is that recycling/recovery of the treatment is conventional and known to allow for conservation of treatment fluids and save process costs as "fresh", previously unused solution is unnecessary or greatly reduced for subsequent runs. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to modify the apparatus of Takashi et al as modified by Nakamoto et al or Uchida et al with Konishi et al.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-Th during the hours of 8 a.m. and 4:30 p.m.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 27, 2010

/Sylvia R MacArthur/
Primary Examiner, Art Unit 1716

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